

REMARKS

Claims 19-31 are pending in the present application. No claims have been added, amended or cancelled. Applicants believe that the application is now in condition for allowance, which prompt and favorable action is respectfully requested.

I. AMENDMENTS TO THE SPECIFICATION

Amendments have been made to the Specification and Drawings correcting minor typographical issues. No new matter has been entered. These amendments are now explained.

Paragraph [0036] has been amended to insert an inadvertently omitted reference designation, “350,” for the transmit antenna, as found on the drawings.

Paragraph [0071] has been amended to discuss the term used in Eq. 6, $p_2^*(k)$, which “is the conjugate of the pilot symbol,” rather than the pilot symbol itself. Although the skilled artisan, on reading Eq. 6, would have understood that, the text has been corrected to match the equation.

Paragraph [0083] has been amended to correct the reference designation for the delay line/buffer from “830” to read “831,” with a corresponding change made in the drawing of Fig. 8C so as to avoid a conflict of uses of the reference designation “830.”

II. REJECTION UNDER 35 U.S.C. §102

Claims 19-31 are rejected under 35 U.S.C. 102 as allegedly being anticipated by Bottomley, U.S. Patent No. 5,506,861 (hereinafter “*Bottomley*”). This rejection is respectfully traversed.

Claim 19 recites a combination of elements not found in the cited and applied reference, *Bottomley*. In particular, claim 19 requires, “a signal detector...; a threshold computation unit...; and a comparator operative to receive [the output of the signal detector and the output of the threshold computation unit] and provide an output indicating whether or not the data transmission is deemed to have been received.” *Bottomley* fails to disclose this combination of three elements connected as required by the claim.

Bottomley discloses a wireless communication system, as depicted in Fig. 1 and explained in col. 3, lines 44-62, for example. In the system of Fig. 1, there is an RF Receiver 100, a Correlator 101, a Timing Control 102, a Gating Function 103, a Half-Complex Multiplier (HCM) 104, Channel Tracking 105, an Accumulator 106 and a Threshold Device 107. None of

these elements is “a comparator operative to receive the metric and the threshold and provide an output indicating whether or not the data transmission is deemed to have been received,” as required by the claim. *Bottomley* explains that the Threshold Device 107 compares an accumulated sum produced by Accumulator 106 with a threshold that “is typically zero,” in order to detect binary “0” and “1” values. The “typically zero” threshold is not described as computed by “a threshold computation unit operative to determine a threshold for the hypothesized data transmission.” As described in the specification of the instant application, the threshold computation unit computes thresholds from received signals. Indeed, the “typically zero” threshold appears from the description to be arbitrary and fixed. Thus, Threshold Device 107 cannot be the claimed “comparator” and the “threshold computation unit” appears to be missing entirely.

Moreover, none of the other elements of the disclosed system compares a “metric for a data transmission hypothesized to have been received” with a “threshold for the hypothesized data transmission.” The Timing Control 102 determines times occurring once per ray during which the Gating Function 103 passes a correlation value to HCM 104. None of these activities implicates any of the disclosed function blocks as the claimed structures.

Claims 28 and 31 recite similar features in a method of detecting data transmissions and an apparatus including a combination of means for performing certain recited acts. Claims 28 and 31 are therefore not anticipated by *Bottomley* for the same reasons as explained above in connection with claim 19.

Regarding independent claims 24 and 29, these claims each require “processing received data symbols...to provide remodulated symbols that are estimates of transmitted data symbols,” and means for performing the acts quoted above. *Bottomley* does not disclose performing the remodulation required by the cited recitation, and so cannot anticipate either of these independent claims.

Since the reference does not disclose each element of the claimed invention as found in each of the independent claims, 19, 24, 28, 29 and 31, the independent claims are not anticipated by *Bottomley*. The remaining claims are dependent claims which depend from one of the independent claims discussed above. The dependent claims are not anticipated by *Bottomley* for at least the same reasons as discussed in connection with the various independent claims from which they depend. Withdrawal of this rejection is therefore respectfully requested.

CONCLUSION

All objections and rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that effect is earnestly solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Charge Statement: For this application, the Commissioner is hereby authorized to charge any required fees or credit any overpayment to Deposit Account 17-0026.

Respectfully submitted,
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